



DEPARTMENT OF LABOR

Mine Safety and Health Administration

Petitions for Modification of Application of Existing Mandatory Safety Standards

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Notice.

SUMMARY: This notice includes the summaries of three petitions for modification submitted to the Mine Safety and Health Administration (MSHA) by the party listed below.

DATES: All comments on the petitions must be received by MSHA's Office of Standards, Regulations, and Variances on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may submit your comments including the docket number of the petition by any of the following methods:

1. Electronic Mail: zzMSHA-comments@dol.gov. Include the docket number of the petition in the subject line of the message.

2. Facsimile: 202-693-9441.

3. Regular Mail or Hand Delivery: MSHA, Office of Standards, Regulations, and Variances, 201 12th Street South, Suite 4E401, Arlington, Virginia 22202-5452,

Attention: Jessica D. Senk, Director, Office of Standards, Regulations, and Variances. Persons delivering documents are required to check in at the receptionist's desk in Suite 4E401.

Individuals may inspect copies of the petition and comments during normal business hours at the address listed above.

MSHA will consider only comments postmarked by the U.S. Postal Service or proof of delivery from another delivery service such as UPS or Federal Express on or before the deadline for comments.

FOR FURTHER INFORMATION CONTACT: Jessica D. Senk, Office of Standards, Regulations, and Variances at 202-693-9440 (voice), Senk.Jessica@dol.gov (email), or 202-693-9441 (facsimile). [These are not toll-free numbers.]

SUPPLEMENTARY INFORMATION: Section 101(c) of the Federal Mine Safety and Health Act of 1977 and Title 30 of the Code of Federal Regulations (CFR) part 44 govern the application, processing, and disposition of petitions for modification.

I. Background

Section 101(c) of the Federal Mine Safety and Health Act of 1977 (Mine Act) allows the mine operator or representative of miners to file a petition to modify the application of any mandatory safety standard to a coal or other mine if the Secretary of Labor determines that:

1. An alternative method of achieving the result of such standard exists which will at all times guarantee no less than the same measure of protection afforded the miners of such mine by such standard; or
2. The application of such standard to such mine will result in a diminution of safety to the miners in such mine.

In addition, sections 44.10 and 44.11 of 30 CFR establish the requirements for filing petitions for modification.

II. Petitions for Modification

Docket Number: M-2021-016-C

Petitioner: Consol Pennsylvania Coal Company LLC, 1000 Consol Energy Drive, Canonsburg, Pennsylvania (ZIP 15317).

Mine: Enlow Fork Mine, MSHA ID No. 36-07416, located in Washington County, Pennsylvania

Regulation Affected: 30 CFR 75.507-1(a) (Electric equipment other than power-connection points; outby the last open crosscut; return air; permissibility requirements).

Modification Request: The petitioner requests a modification of the existing standard, 30 CFR 75.507-1(a), as it relates to the use of an alternative method of respirable dust protection for miners at the Enlow Fork Mine in Pennsylvania. Specifically, the petitioner is applying to use the 3M™ Versaflo™ TR-800 Intrinsically Safe Powered Air Purifying Respirator (PAPR) and the CleanSpace EX in return air outby the last open crosscut.

The petitioner states that:

- (a) Currently the petitioner uses the 3M™ Airstream™ helmet to provide additional protection for its miners against exposure to respirable coal mine dust. There are clear long-term health benefits from using such technology.
- (b) 3M elected to discontinue the 3M™ Airstream™ helmet, replacing it with a 3M™ Versaflo™ TR-800 which benefits from additional features and reduced weight. Because of its reduced weight, it provides significant ergonomic benefits.
- (c) For more than 40 years the 3M™ Airstream™ Headgear-Mounted PAPR System has been used by many mine operators to help protect their workers. During those years there have been technological advancements in products and services for industrial applications. 3M indicated that they had faced multiple key component supply disruptions for the Airstream™ product line that created issues with providing acceptable supply service levels. Because of those issues, 3M discontinued the Airstream™ in June 2020, and this discontinuation is global.
- (d) 3M announced that February 2020 was the final time to place an order for systems and components and that June 2020 was the final date to purchase Airstream™ components.
- (e) Currently there are no replacement 3M PAPRs that meet applicable MSHA standards for permissibility. Electronic equipment used in underground mines in potentially explosive atmospheres is required to be approved by MSHA in accordance with 30 CFR. 3M and other manufacturers offer alternative products for many other environments and applications.

- (f) Following the discontinuation, mines that currently use the Airstream™ do not have an MSHA-approved alternative PAPR to provide to miners. One of the benefits of PAPRs is that they provide a constant flow of air inside the headtop or helmet. This constant airflow helps to provide both respiratory protection and comfort in hot working environments.
- (g) Application of the standard results in a diminution of safety at the mine.
- (h) The 3M™ Versaflo™ TR-800 motor/blower and battery qualify as intrinsically safe in the U.S., Canada, and any other country accepting IECEx (International Electrotechnical Commission System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres) reports. The 3M™ Versaflo™ TR-800 has a blower that is UL-certified with an intrinsically safe (IS) rating of Division 1: IS Class I, II, III; Division 1 (includes Division 2) Groups C, D, E, F, G; T4, under the most current standard (UL 60079, 6th Edition, 2013). It is ATEX-certified with an IS rating of "ia." (ATEX refers to European directives for controlling explosive atmospheres.) It is rated and marked with Ex ia I Ma, Ex ia IIB T4 Ga, Ex ia IIIC 135°C Da, $-20^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$, under the current standard (IEC 60079).
- (i) The petitioner requests a modification to also permit the use of CleanSpace EX powered respirator under the same conditions as it proposed with respect to the 3M™ Versaflo™ TR-800. It too has been determined to be intrinsically safe.
- (j) The 3M™ Versaflo™ TR-800 is not MSHA approved as permissible, and 3M is not pursuing approval.
- (k) The CleanSpace EX Power Unit is not MSHA approved as permissible, and CleanSpace is not pursuing approval.
- (l) The standards for approval of these respirators are an acceptable alternative to MSHA's standards and provide an equivalent level of protection.

The petitioner proposes the following alternative method:

- (a) Affected mine employees must be trained in the proper use and maintenance of the 3M™ Versaflo™ TR-800 and the CleanSpace EX in accordance with established manufacturer guidelines. This training shall alert the affected employee that neither the 3M™ Versaflo™ TR-800 nor the CleanSpace EX is approved under 30 CFR part 18 and must be de-energized when 1.0 or more percent methane is detected. The training shall also include the proper method to de-energize these PAPRs. In addition to manufacturer guidelines, the petitioner will require that mine employees be trained to inspect the units before use to determine if there is any damage to the units that would negatively impact intrinsic safety as well as all stipulations in this petition.
- (b) The PAPRs, battery packs, and all associated wiring and connections must be inspected before use to determine if there is any damage to the units that would negatively impact intrinsic safety. If any defects are found, the PAPR must be removed from service.
- (c) The operator will maintain a separate logbook for the 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs that shall be kept with the equipment or in a location with other mine record books and shall be made available to MSHA upon request. The equipment shall be examined at least weekly by a qualified person as defined in 30 CFR 75.512-1 and the examination results recorded in the logbook. Since float coal dust is removed by the air filter prior to reaching the motor, the PAPR user shall conduct regular examinations of the filter and perform periodic testing for proper operation of the "high filter load alarm" on the 3M™ Versaflo™ TR-800 and the "blocked filter" alarm on the CleanSpace EX. Examination entries may be expunged after one year.
- (d) All 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs to be used in the return air outby the last open crosscut shall be physically examined prior to initial use, and each unit will be assigned a unique identification number. Each unit shall be examined by the person to operate the equipment prior to taking the equipment underground to ensure the

equipment is being used according to the original equipment manufacturer's recommendations and maintained in a safe operating condition.

(e) The examination for the 3M™ Versaflo™ TR-800 shall include:

- i. Check the equipment for any physical damage and the integrity of the case;
- ii. Remove the battery and inspect for corrosion;
- iii. Inspect the contact points to ensure a secure connection to the battery;
- iv. Reinsert the battery and power up and shut down to ensure proper connections;
- v. Check the battery compartment cover or battery attachment to ensure that it is securely fastened.
- vi. For equipment utilizing lithium type cells, ensure that lithium cells and/or packs are not damaged or swelled in size.

(f) The CleanSpace EX does not have an accessible/removable battery. The battery and motor/blower assembly are both contained within the sealed power pack assembly and cannot be removed, reinserted, or fastened. The pre-use examination is limited to inspecting the equipment for indications of physical damage.

(g) The operator is to ensure that all 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs are serviced according to the manufacturer's recommendations. Dates of service will be recorded in the equipment's log book and shall include a description of the work performed.

(h) The 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs that will be used in the return air outby the last open crosscut, or in areas where methane may enter the air current, shall not be put into service until MSHA has initially inspected the equipment and determined that it is in compliance with all the terms and conditions of the Decision and Order.

- (i) Prior to energizing the 3M™ Versaflo™ TR-800 or the CleanSpace EX in the return air outby the last open crosscut, methane tests must be made in accordance with 30 CFR 75.323(a).
- (j) All hand-held methane detectors shall be MSHA-approved and maintained in permissible and proper operating condition as defined by 30 CFR 75.320. All methane detectors must provide visual and audible warnings when methane is detected at or above 1.0 percent.
- (k) A qualified person as defined in 30 CFR 75.151 shall continuously monitor for methane immediately before and during the use of the 3M™ Versaflo™ TR-800 or CleanSpace EX in the return air outby the last open crosscut or in areas where methane may enter the air current.
- (l) Neither the 3M™ Versaflo™ TR-800 nor the CleanSpace EX shall be used if methane is detected in concentrations at or above 1.0 percent. When 1.0 percent or more of methane is detected while the 3M™ Versaflo™ TR-800 or CleanSpace EX is being used, the equipment shall be de-energized immediately and the equipment withdrawn outby the last open crosscut.
- (m) The petitioner will use only the 3M™ TR-830 Battery Pack, which meets lithium battery safety standard UL 1642 or IEC 62133 in the 3M™ Versaflo™ TR-800. The petitioner will use only the CleanSpace EX Power Unit which meets lithium battery safety standard UL 1642 or IEC 62133 in the CleanSpace EX.
- (n) The battery packs must be "changed out" in intake air outby the last open crosscut. Before each shift when the 3M™ Versaflo™ TR-800 or CleanSpace EX is to be used, all batteries and power units for the equipment must be charged sufficiently so that they are not expected to be replaced on that shift.
- (o) The following maintenance and use conditions shall apply to equipment containing lithium-type batteries:

- i. Always correctly use and maintain the lithium-ion battery packs. Neither the 3M™ TR-830 Battery Pack nor the CleanSpace EX Power Unit may be disassembled or modified by anyone other than persons permitted by the manufacturer of the equipment.
 - ii. The 3M™ TR-830 Battery Pack must only be charged in an area free of combustible material, readily monitored, and located on the surface of the mine. The 3M™ TR-830 Battery Pack is to be charged by either:
 - a. 3M™ Battery Charger Kit TR-641N, which includes one 3M™ Charger Cradle TR-640 and one 3M™ Power Supply TR-941N, or
 - b. 3M™ 4-Station Battery Charger Kit TR-644N, which includes four 3M™ Charger Cradles TR-640 and one 3M™ 4-Station Battery Charger Base/Power Supply TR-944N.
 - iii. The CleanSpace EX Power Unit is to be charged only by the CleanSpace Battery Charger EX, Product Code PAF-0066.
 - iv. The batteries must not be allowed to get wet. This does not preclude incidental exposure of sealed battery packs.
 - v. The batteries shall not be used, charged, or stored in locations where the manufacturer's recommended temperature limits are exceeded. The batteries must not be placed in direct sunlight or used or stored near a source of heat.
- (p) Personnel engaged in the use of the 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs shall be properly trained to recognize the hazards and limitations associated with the use of the equipment in areas where methane could be present. Additionally, personnel shall be trained regarding proper procedures for donning Self Contained Self Rescuers (SCSRs) during a mine emergency while wearing the 3M™ Versaflo™ TR-800 or CleanSpace EX. The mine operator shall submit proposed revisions to update the

Mine Emergency Evacuation and Firefighting Program of Instruction under 30 CFR 75.1502 to address this issue.

- (q) Within 60 days after the Decision and Order becomes final, the operator shall submit proposed revisions for its approved 30 CFR part 48 training plans to the Mine Safety and Health Enforcement District Manager. These proposed revisions shall specify initial and refresher training regarding the terms and conditions stated in the Decision and Order. When training is conducted on the terms and conditions in the Decision and Order, an MSHA Certificate of Training (Form 5000-23) shall be completed. Comments shall be included on the Certificate of Training indicating that the training received was for use of the 3M™ Versaflo™ TR-800 or CleanSpace EX.
- (r) All personnel who will be involved with or affected by the use of the 3M™ Versaflo™ TR-800 or CleanSpace EX shall receive training in accordance with 30 CFR 48.7 on the requirements of the Decision and Order within 60 days of the date the Decision and Order becomes final. Such training must be completed before any 3M™ Versaflo™ TR-800 or CleanSpace EX can be used in return air outby the last open crosscut. The operator shall keep a record of such training and provide such record to MSHA upon request.
- (s) The operator shall provide annual retraining to all personnel who will be involved with or affected by the use of the 3M™ Versaflo™ TR-800 or CleanSpace EX in accordance with 30 CFR 48.8. The operator shall train new miners on the requirements of the Decision and Order in accordance with 30 CFR 48.5 and shall train experienced miners on the requirements of the Decision and Order in accordance with 30 CFR 48.6. The operator shall keep a record of such training and provide such record to MSHA upon request.

- (t) The operator shall post the Decision and Order in unobstructed locations on the bulletin boards and/or in other conspicuous places where notices to miners are ordinarily posted for a period of not less than 60 consecutive days.

The petitioner asserts that the alternate method proposed will at all times guarantee no less than the same measure of protection afforded the miners under the mandatory standard.

Docket Number: M-2021-017-C

Petitioner: Consol Pennsylvania Coal Company LLC, 1000 Consol Energy Drive, Canonsburg, Pennsylvania (ZIP 15317).

Mine: Enlow Fork Mine, MSHA ID No. 36-07416, located in Washington County, Pennsylvania

Regulation Affected: 30 CFR 75.500(d) (Permissible electric equipment).

Modification Request: The petitioner requests a modification of the existing standard, 30 CFR 75.500(d), as it relates to the use of an alternative method of respirable dust protection for miners at the Enlow Fork Mine in Pennsylvania. Specifically, the petitioner is applying to use the 3M™ Versaflo™ TR-800 Intrinsically Safe Powered Air Purifying Respirator (PAPR), and the CleanSpace EX in or inby the last crosscut.

The petitioner states that:

- (a) Currently the petitioner uses the 3M™ Airstream™ helmet to provide additional protection for its miners against exposure to respirable coal mine dust. There are clear long-term health benefits from using such technology.
- (b) 3M elected to discontinue the 3M™ Airstream™ helmet, replacing it with a 3M™ Versaflo™ TR-800 unit which benefits from additional features and reduced weight. Because of its reduced weight, it provides significant ergonomic benefits.
- (c) For more than 40 years the 3M™ Airstream™ Headgear-Mounted PAPR System has

been used by many mine operators to help protect their workers. During those years there have been technological advancements in products and services for industrial applications. 3M indicated that they had faced multiple key component supply disruptions for the Airstream™ product line that created issues with providing acceptable supply service levels. Because of those issues, 3M discontinued the Airstream™ in June 2020 and this discontinuation is global.

- (d) 3M announced that February 2020 was the final time to place an order for systems and components and that June 2020 was the final date to purchase Airstream™ components.
- (e) Currently there are no replacement 3M PAPRs that meet applicable MSHA standards for permissibility. Electronic equipment used in underground mines in potentially explosive atmospheres is required to be approved by MSHA in accordance with 30 CFR. 3M and other manufacturers offer alternative products for many other environments and applications.
- (f) Following the discontinuation, mines that currently use the Airstream™ do not have an MSHA-approved alternative PAPR to provide to miners. One of the benefits of PAPRs is that they provide a constant flow of air inside the headtop or helmet. This constant airflow helps to provide both respiratory protection and comfort in hot working environments.
- (g) Application of the standard results in a diminution of safety at the mine.
- (h) The 3M™ Versaflo™ TR-800 motor/blower and battery qualify as intrinsically safe in the US, Canada, and any other country accepting IECEx (International Electrotechnical Commission System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres) reports. The 3M™ Versaflo™ TR-800 has a blower that is UL-certified with an intrinsically safe (IS) rating of Division 1: IS Class I, II, III; Division 1 (includes Division 2) Groups C, D, E, F, G; T4, under the most current standard (UL 60079, 6th Edition, 2013). It is ATEX-certified with an IS rating of "ia." (ATEX refers

to European directives for controlling explosive atmospheres.) It is rated and marked with Ex ia I Ma, Ex ia IIB T4 Ga, Ex ia IIIC 135°C Da, $-20^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$, under the current standard (IEC 60079).

- (i) The petitioner requests a modification to also permit the use of CleanSpace EX powered respirator under the same conditions as it proposed with respect to the 3M™ Versaflo™ TR-800. It too has been determined to be intrinsically safe.
- (j) The 3M™ Versaflo™ TR-800 is not MSHA approved as permissible, and 3M is not pursuing approval.
- (k) The CleanSpace EX Power Unit is not MSHA approved as permissible, and CleanSpace is not pursuing approval.
- (l) The standards for approval of these respirators are an acceptable alternative to MSHA's standards and provide an equivalent level of protection.

The petitioner proposes the following alternative method:

- (a) Affected mine employees must be trained in the proper use and maintenance of the 3M™ Versaflo™ TR-800 and the CleanSpace EX in accordance with established manufacturer guidelines. This training shall alert the affected employee that neither the 3M™ Versaflo™ TR-800 nor the CleanSpace EX is approved under 30 CFR part 18 and must be de-energized when 1.0 or more percent methane is detected. The training shall also include the proper method to de-energize these PAPRs. In addition to manufacturer guidelines, the petitioner will require that mine employees be trained to inspect the units before use to determine if there is any damage to the units that would negatively impact intrinsic safety as well as all stipulations in this petition.
- (b) The PAPRs, battery packs, and all associated wiring and connections must be inspected before use to determine if there is any damage to the units that would negatively impact intrinsic safety. If any defects are found, the PAPR must be removed from service.
- (c) The operator will maintain a separate logbook for the 3M™ Versaflo™ TR-800 and

CleanSpace EX PAPRs that shall be kept with the equipment, or in a location with other mine record books and shall be made available to MSHA upon request. The equipment shall be examined at least weekly by a qualified person as defined in 30 CFR 75.512-1 and the examination results recorded in the logbook. Since float coal dust is removed by the air filter prior to reaching the motor, the PAPR user shall conduct regular examinations of the filter and perform periodic testing for proper operation of the "high filter load alarm" on the 3M™ Versaflo™ TR-800 and the "blocked filter" alarm on the CleanSpace EX. Examination entries may be expunged after one year.

(d) All 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs to be used in by the last open crosscut shall be physically examined prior to initial use, and each unit will be assigned a unique identification number. Each unit shall be examined by the person to operate the equipment prior to taking the equipment underground to ensure the equipment is being used according to the original equipment manufacturer's recommendations and maintained in a safe operating condition.

(e) The examination for the 3M™ Versaflo™ TR-800I shall include:

- i. Check the equipment for any physical damage and the integrity of the case;
- ii. Remove the battery and inspect for corrosion;
- iii. Inspect the contact points to ensure a secure connection to the battery;
- iv. Reinsert the battery and power up and shut down to ensure proper connections;
- v. Check the battery compartment cover or battery attachment to ensure that it is securely fastened.
- vi. For equipment utilizing lithium type cells, ensure that lithium cells and/or packs are not damaged or swelled in size.

(f) The CleanSpace EX does not have an accessible/removable battery. The battery and motor/blower assembly are both contained within the sealed power pack assembly and

cannot be removed, reinserted, or fastened. The pre-use examination is limited to inspecting the equipment for indications of physical damage.

- (g) The operator is to ensure that all 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs are serviced according to the manufacturer's recommendations. Dates of service will be recorded in the equipment's log book and shall include a description of the work performed.
- (h) The 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs that will be used inby the last open crosscut, or in areas where methane may enter the air current, shall not be put into service until MSHA has initially inspected the equipment and determined that it is in compliance with all the terms and conditions of the Decision and Order.
- (i) Prior to energizing the 3M™ Versaflo™ TR-800 or the CleanSpace EX inby the last open crosscut, methane tests must be made in accordance with 30 CFR 75.323(a).
- (j) All hand-held methane detectors shall be MSHA-approved and maintained in permissible and proper operating condition as defined by 30 CFR 75.320. All methane detectors must provide visual and audible warnings when methane is detected at or above 1.0 percent.
- (k) A qualified person as defined in 30 CFR 75.151 shall continuously monitor for methane immediately before and during the use of the 3M™ Versaflo™ TR-800 or CleanSpace EX in the return air inby the last open crosscut or in areas where methane may enter the air current.
- (l) Neither the 3M™ Versaflo™ TR-800 nor the CleanSpace EX shall be used if methane is detected in concentrations at or above 1.0 percent. When 1.0 percent or more of methane is detected while the 3M™ Versaflo™ TR-800 or CleanSpace EX is being used, the equipment shall be de-energized immediately and the equipment withdrawn outby the last open crosscut.

(m) The petitioner will use only the 3M™ TR-830 Battery Pack, which meets lithium battery safety standard UL 1642 or IEC 62133, in the 3M™ Versaflo™ TR-800. The petitioner will use only the CleanSpace EX Power Unit which meets lithium battery safety standard UL 1642 or IEC 62133 in the CleanSpace EX.

(n) The battery packs must be "changed out" in intake air outby the last open crosscut.

Before each shift when the 3M™ Versaflo™ TR-800 or CleanSpace EX is to be used, all batteries and power units for the equipment must be charged sufficiently so that they are not expected to be replaced on that shift.

(o) The following maintenance and use conditions shall apply to equipment containing lithium-type batteries:

- i. Always correctly use and maintain the lithium-ion battery packs. Neither the 3M™ TR-830 Battery Pack nor the CleanSpace EX Power Unit may be disassembled or modified by anyone other than persons permitted by the manufacturer of the equipment.
- ii. The 3M™ TR-830 Battery Pack must only be charged in an area free of combustible material, readily monitored, and located on the surface of the mine. The 3M™ TR-830 Battery Pack is to be charged by either:
 - a. 3M™ Battery Charger Kit TR-641N, which includes one 3M™ Charger Cradle TR-640 and one 3M™ Power Supply TR-941N, or
 - b. 3M™ 4-Station Battery Charger Kit TR-644N, which includes four 3M™ Charger Cradles TR-640 and one 3M™ 4-Station Battery Charger Base/Power Supply TR-944N.
- iii. The CleanSpace EX Power Unit is to be charged only by the CleanSpace Battery Charger EX, Product Code PAF-0066.
- iv. The batteries must not be allowed to get wet. This does not preclude incidental exposure of sealed battery packs.

- v. The batteries shall not be used, charged, or stored in locations where the manufacturer's recommended temperature limits are exceeded. The batteries must not be placed in direct sunlight or used or stored near a source of heat.

(p) Personnel engaged in the use of the 3M™ Versaflo™ TR-800 and CleanSpace EX

PAPRs shall be properly trained to recognize the hazards and limitations associated with the use of the equipment in areas where methane could be present. Additionally, personnel shall be trained regarding proper procedures for donning Self Contained Self Rescuers (SCSRs) during a mine emergency while wearing the 3M™ Versaflo™ TR-800 or CleanSpace EX. The mine operator shall submit proposed revisions to update the Mine Emergency Evacuation and Firefighting Program of Instruction under 30 CFR 75.1502 to address this issue.

- (q) Within 60 days after the Decision and Order becomes final, the operator shall submit proposed revisions for its approved 30 CFR part 48 training plans to the Mine Safety and Health Enforcement District Manager. These proposed revisions shall specify initial and refresher training regarding the terms and conditions stated in the Decision and Order. When training is conducted on the terms and conditions in the Decision and Order, an MSHA Certificate of Training (Form 5000-23) shall be completed. Comments shall be included on the Certificate of Training indicating that the training received was for use of the 3M™ Versaflo™ TR-800 or CleanSpace EX.

- (r) All personnel who will be involved with or affected by the use of the 3M™ Versaflo™ TR-800 or CleanSpace EX shall receive training in accordance with 30 CFR 48.7 on the requirements of the Decision and Order within 60 days of the date the Decision and Order becomes final. Such training must be completed before any 3M™ Versaflo™ TR-800 or CleanSpace EX can be used in by the last open crosscut. The operator shall keep a record of such training and provide such record to MSHA upon request.

- (s) The operator shall provide annual retraining to all personnel who will be involved with or affected by the use of the 3M™ Versaflo™ TR-800 or CleanSpace EX in accordance with 30 CFR 48.8. The operator shall train new miners on the requirements of the Decision and Order in accordance with 30 CFR 48.5 and shall train experienced miners on the requirements of the Decision and Order in accordance with 30 CFR 48.6. The operator shall keep a record of such training and provide such record to MSHA upon request.
- (t) The operator shall post the Decision and Order in unobstructed locations on the bulletin boards and/or in other conspicuous places where notices to miners are ordinarily posted, for a period of not less than 60 consecutive days.

The petitioner asserts that the alternate method proposed will at all times guarantee no less than the same measure of protection afforded the miners under the mandatory standard.

Docket Number: M-2021-018-C

Petitioner: Consol Pennsylvania Coal Company LLC, 1000 Consol Energy Drive, Canonsburg, Pennsylvania (ZIP 15317).

Mine: Enlow Fork Mine, MSHA ID No. 36-07416, located in Washington County, Pennsylvania

Regulation Affected: 30 CFR 75.1002(a) (Installation of electric equipment and conductors: permissibility)

Modification Request: The petitioner requests a modification of the existing standard, 30 CFR 75.1002(a), as it relates to the use of an alternative method of respirable dust protection for miners at the Enlow Fork Mine in Pennsylvania. Specifically, the petitioner is applying to use the 3M™ Versaflo™ TR-800 Intrinsically Safe Powered Air Purifying Respirator (PAPR) and the CleanSpace EX within 150 feet of pillar workings or longwall faces.

The petitioner states that:

- (a) Currently the petitioner uses the 3M™ Airstream™ helmet to provide additional protection for its miners against exposure to respirable coal mine dust. There are clear long-term health benefits from using such technology.
- (b) 3M elected to discontinue the 3M™ Airstream™ helmet, replacing it with a 3M™ Versaflo™ TR-800 which benefits from additional features and reduced weight. Because of its reduced weight, it provides significant ergonomic benefits.
- (c) For more than 40 years the 3M™ Airstream™ Headgear-Mounted PAPR System has been used by many mine operators to help protect their workers. During those years there have been technological advancements in products and services for industrial applications. 3M indicated that they had faced multiple key component supply disruptions for the Airstream product line that have created issues with providing acceptable supply service levels. Because of those issues, 3M discontinued the Airstream™ in June 2020 and this discontinuation is global.
- (d) 3M announced that February 2020 was the final time to place an order for systems and components and that June 2020 was the final date to purchase Airstream™ components.
- (e) Currently there are no replacement 3M PAPRs that meet MSHA standards for permissibility. Electronic equipment used in underground mines in potentially explosive atmospheres is required to be approved by MSHA in accordance with 30 CFR. 3M and other manufacturers offer alternative products for many other environments and applications.
- (f) Following the discontinuation, mines that currently use the Airstream™ do not have an MSHA-approved alternative PAPR to provide to miners. One of the benefits of PAPRs is that they provide a constant flow of air inside the headtop or helmet. This constant airflow helps to provide both respiratory protection and comfort in hot working environments.

- (g) Application of the standard results in a diminution of safety at the mine.
- (h) The 3M™ Versaflo™ TR-800 motor/blower and battery qualify as intrinsically safe in the US, Canada, and any other country accepting IECEx (International Electrotechnical Commission System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres). The 3M™ Versaflo™ TR-800 has a blower that is UL-certified with an intrinsically safe (IS) rating of Division 1: IS Class I, II, III; Division 1 (includes Division 2) Groups C, D, E, F, G; T4, under the most current standard (UL 60079, 6th Edition, 2013). ATEX-certified with an IS rating of "ia." (ATEX refers to European directives for controlling explosive atmospheres.) It is rated and marked with Ex ia I Ma, Ex ia IIB T4 Ga, Ex ia IIIC 135°C Da, $-20^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$, under the current standard (IEC 60079).
- (i) The petitioner requests a modification to also permit the use of CleanSpace EX powered respirator under the same conditions as it proposed with respect to the 3M™ Versaflo™ TR-800. It too has been determined to be intrinsically safe.
- (j) The 3M™ Versaflo™ TR-800 is not MSHA approved as permissible, and 3M is not pursuing approval.
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- (l) The standards for approval of these respirators are an acceptable alternative to MSHA's standards and provide an equivalent level of protection.

The petitioner proposes the following alternative method:

- (a) Affected mine employees must be trained in the proper use and maintenance of the 3M™ Versaflo™ TR-800 and the CleanSpace EX PAPRs in accordance with established manufacturer guidelines. This training shall alert the affected employee that neither the 3M™ Versaflo™ TR-800 nor the CleanSpace EX is approved under 30 CFR part 18 and must be de-energized when 1.0 or more percent methane is detected. The training shall

also include the proper method to de-energize these PAPRs. In addition to manufacturer guidelines, the petitioner will require that mine employees be trained to inspect the units before use to determine if there is any damage to the units that would negatively impact intrinsic safety as well as all stipulations in this petition.

- (b) The PAPRs, battery packs, and all associated wiring and connections must be inspected before use to determine if there is any damage to the units that would negatively impact intrinsic safety. If any defects are found, the PAPR must be removed from service.
- (c) The operator will maintain a separate logbook for the 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs that shall be kept with the equipment, or in a location with other mine record books and shall be made available to MSHA upon request. The equipment shall be examined at least weekly by a qualified person as defined in 30 CFR 75.512-1 and the examination results recorded in the logbook. Since float coal dust is removed by the air filter prior to reaching the motor, the PAPR user shall conduct regular examinations of the filter and perform periodic testing for proper operation of the "high filter load alarm" on the 3M™ Versaflo™ TR-800 F and the "blocked filter" alarm on the CleanSpace EX. Examination entries may be expunged after one year.
- (d) All 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs to be used on the longwall face or within 150 feet of pillar workings shall be physically examined prior to initial use, and each unit will be assigned a unique identification number. Each unit shall be examined by the person to operate the equipment prior to taking the equipment underground to ensure the equipment is being used according to the original equipment manufacturer's recommendations and maintained in a safe operating condition.
- (e) The examination for the 3M™ Versaflo™ TR-800I shall include:
 - i. Check the equipment for any physical damage and the integrity of the case;
 - ii. Remove the battery and inspect for corrosion;
 - iii. Inspect the contact points to ensure a secure connection to the battery;

- iv. Reinsert the battery and power up and shut down to ensure proper connections;
 - v. Check the battery compartment cover or battery attachment to ensure that it is securely fastened.
 - vi. For equipment utilizing lithium type cells, ensure that lithium cells and/or packs are not damaged or swelled in size.
- (f) The CleanSpace EX does not have an accessible/removable battery. The battery and motor/blower assembly are both contained within the sealed power pack assembly and cannot be removed, reinserted, or fastened. The pre-use examination is limited to inspecting the equipment for indications of physical damage.
- (g) The operator is to ensure that all 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs are serviced according to the manufacturer's recommendations. Dates of service will be recorded in the equipment's log book and shall include a description of the work performed.
- (h) The 3M Versaflo™ TR-800 and CleanSpace EX PAPRs that will be used on the longwall face or within 150 feet of pillar workings, or in areas where methane may enter the air current, shall not be put into service until MSHA has initially inspected the equipment and determined that it is in compliance with all the terms and conditions of the Decision and Order.
- (i) Prior to energizing the 3M™ Versaflo™ TR-800 or the CleanSpace EX inby the last open crosscut, methane tests must be made in accordance with 30 CFR 75.323(a).
- (j) All hand-held methane detectors shall be MSHA-approved and maintained in permissible and proper operating condition as defined by 30 CFR 75.320. All methane detectors must provide visual and audible warnings when methane is detected at or above 1.0 percent.

- (k) A qualified person as defined in 30 CFR 75.151 shall continuously monitor for methane immediately before and during the use of the 3M™ Versaflo™ TR-800 or CleanSpace EX on the longwall face or within 150 feet of pillar workings or in areas where methane may enter the air current.
- (l) Neither the 3M™ Versaflo™ TR-800 nor the CleanSpace EX shall be used if methane is detected in concentrations at or above 1.0 percent. When 1.0 percent or more of methane is detected while the 3M™ Versaflo™ TR-800 or CleanSpace EX is being used, the equipment shall be de-energized immediately and the equipment withdrawn outby the last open crosscut.
- (m) The petitioner will use only the 3M™ TR-830 Battery Pack, which meets lithium battery safety standard UL 1642 or IEC 62133, in the 3M™ Versaflo™ TR-800. The petitioner will use only the CleanSpace EX Power Unit which meets lithium battery safety standard UL 1642 or IEC 62133 in the CleanSpace EX.
- (n) The battery packs must be "changed out" in intake air outby the last open crosscut. Before each shift when the 3M™ Versaflo™ TR-800 or CleanSpace EX is to be used, all batteries and power units for the equipment must be charged sufficiently so that they are not expected to be replaced on that shift.
- (o) The following maintenance and use conditions shall apply to equipment containing lithium-type batteries:
- i. Always correctly use and maintain the lithium-ion battery packs. Neither the 3M™ TR-830 Battery Pack nor the CleanSpace EX Power Unit may be disassembled or modified by anyone other than persons permitted by the manufacturer of the equipment.
 - ii. The 3M™ TR-830 Battery Pack must only be charged in an area free of combustible material, readily monitored, and located on the surface of the mine. The 3M™ TR-830 Battery Pack is to be charged by either:

- a. 3M™ Battery Charger Kit TR-641N, which includes one 3M™ Charger Cradle TR-640 and one 3M™ Power Supply TR-941N, or,
 - b. 3M™ 4-Station Battery Charger Kit TR-644N, which includes four 3M™ Charger Cradles TR-640 and one 3M™ 4-Station Battery Charger Base/Power Supply TR-944N.
 - iii. The CleanSpace EX Power Unit is to be charged only by the CleanSpace Battery Charger EX, Product Code PAF-0066.
 - iv. The batteries must not be allowed to get wet. This does not preclude incidental exposure of sealed battery packs.
 - v. The batteries shall not be used, charged or stored in locations where the manufacturer's recommended temperature limits are exceeded. The batteries must not be placed in direct sunlight or used or stored near a source of heat.
- (p) Personnel engaged in the use of the 3M™ Versaflo™ TR-800 and CleanSpace EX PAPRs shall be properly trained to recognize the hazards and limitations associated with the use of the equipment in areas where methane could be present. Additionally, personnel shall be trained regarding proper procedures for donning Self Contained Self Rescuers (SCSRs) during a mine emergency while wearing the 3M™ Versaflo™ TR-800 or CleanSpace EX. The mine operator shall submit proposed revisions to update the Mine Emergency Evacuation and Firefighting Program of Instruction under 30 CFR 75.1502 to address this issue.
- (q) Within 60 days after the Decision and Order becomes final, the operator shall submit proposed revisions for its approved 30 CFR part 48 training plans to the Mine Safety and Health Enforcement District Manager. These proposed revisions shall specify initial and refresher training regarding the terms and conditions stated in the Decision and Order. When training is conducted on the terms and conditions in the Decision and Order, an MSHA Certificate of Training (Form 5000-23) shall be completed. Comments shall be

included on the Certificate of Training indicating that the training received was for use of the 3M™ Versaflo™ TR-800 or CleanSpace EX PAPR.

- (r) All personnel who will be involved with or affected by the use of the 3M™ Versaflo™ TR-800 or CleanSpace EX shall receive training in accordance with 30 CFR 48.7 on the requirements of the Decision and Order within 60 days of the date the Decision and Order becomes final. Such training must be completed before any 3M™ Versaflo™ TR-800 or CleanSpace EX can be used on the longwall face or within 150 feet of pillar workings. The operator shall keep a record of such training and provide such record to MSHA upon request.
- (s) The operator shall provide annual retraining to all personnel who will be involved with or affected by the use of the 3M™ Versaflo™ TR-800 or CleanSpace EX in accordance with 30 CFR 48.8. The operator shall train new miners on the requirements of the Decision and Order in accordance with 30 CFR 48.5 and shall train experienced miners on the requirements of the Decision and Order in accordance with 30 CFR 48.6. The operator shall keep a record of such training and provide such record to MSHA upon request.
- (t) The operator shall post the Decision and Order in unobstructed locations on the bulletin boards and/or in other conspicuous places where notices to miners are ordinarily posted, for a period of not less than 60 consecutive days.

The petitioner asserts that the alternate method proposed will at all times guarantee no less than the same measure of protection afforded the miners under the mandatory standard.

Jessica Senk,

Director,

Office of Standards, Regulations, and Variances.

